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*Extracellular vesicles released by hepatocytes during lipotoxicity carry and shuttle specific microRNA-targeting peroxisome proliferator-activated receptor- γ into hepatic stellate cells and induce a phenotypical switch from quiescent to activated cells.
See editorial, Karp SJ, on page 572*
- 664 Short-Term Circadian Disruption Impairs Bile Acid and Lipid Homeostasis in Mice**
J. M. Ferrell and J. Y. L. Chiang
*Short-term circadian disruption disturbs bile acid and lipid homeostasis in mice, in part via transcriptional occupancy of the Cyp7a1 promoter by HNF4 α and Dbp. Coupled with Western diet, free fatty acids are increased, and hepatic clock gene expression is altered.
See editorial, Oster H, on page 574*
- 678 Lysosome-Associated Membrane Proteins (LAMP) Maintain Pancreatic Acinar Cell Homeostasis: LAMP-2-Deficient Mice Develop Pancreatitis**
O. A. Mareninova, M. Sendler, S. R. Malla, I. Yakubov, S. W. French, E. Tokhtaeva, O. Vagin, V. Oorschot, R. Lüllmann-Rauch, J. Blanz, D. Dawson, J. Klumperman, M. M. Lerch, J. Mayerle, I. Gukovsky, and A. S. Gukovskaya
*Defective autophagy is increasingly implicated in the pathogenesis of pancreatitis. Here we show that lysosome-associated membrane proteins (LAMPs) are degraded in experimental and human pancreatitis; LAMP-2 maintains acinar cell homeostasis, and its genetic ablation causes impaired autophagy and spontaneous pancreatitis.
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695 Early to Late Endosome Trafficking Controls Secretion and Zymogen Activation in Rodent and Human Pancreatic Acinar Cells

S. W. Messenger, D. D. H. Thomas, M. M. Cooley, E. K. Jones, M. A. Falkowski, B. K. August, L. A. Fernandez, F. S. Gorelick, and G. E. Groblewski

In addition to zymogen granule secretion, acinar cells express an anterograde endosomal secretory pathway coordinated in the early endosome (EE). Altered trafficking from EEs to late endosomes/lysosomes or apical membrane during acute pancreatitis controls secretion and zymogen activation.

710 P2X7 Receptor Mediates Spinal Microglia Activation of Visceral Hyperalgesia in a Rat Model of Chronic Pancreatitis

P.-Y. Liu, I.-H. Lee, P.-H. Tan, Y.-P. Wang, C.-F. Tsai, H.-C. Lin, F.-Y. Lee, and C.-L. Lu

In a rat model of chronic pancreatitis, activation of P2X7 receptors in spinal microglia contributed to the chronic visceral hyperalgesia, which was attenuated by intrathecal administration of brilliant blue G dye, an antagonist of P2X7 receptor.